

**In The Claims:**

Claim 1, line 2, kindly insert the word "peak" between the words "local" and "times";

Claim 1, line 12, kindly insert the word "peak" after the word local;

Claim 10, line 10, kindly insert the word "peak" between the words "local" and "times".

**REMARKS**

The Examiner has rejected claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over *Drain* in view of *Westerlund*, *Uphoff*, or *Dulck*.

The Applicants respectively disagree with the Examiner's interpretation of the references as is discussed in detail below. However, claims 1 and 10 have been clarified to recite that the predetermined local time, when coverage is maximized, is peak times. Thus, the claimed method and system of the present invention maximizes satellite constellation coverage at predetermined local peak times for a set of predetermined geographic locations. None of the references of record teach, disclose or suggest, either alone or in combination, Applicants' claimed invention.

Initially, as admitted by the Examiner, the *Drain* reference fails to disclose tilting the trajectory of one or more satellites to reorient the satellite constellation to cover a second coverage.

Further, the Examiner states that *Westerlund* teaches "that tilting satellites to reorient the satellite constellation to cover various geographical areas are well known in the art." To the contrary, *Westerlund* teaches a method of orienting a geosynchronous satellite to adjust for departures due to gravitational and other attractive forces. For example, *Westerlund* teaches that the first step of its method includes orienting the spin axis of a satellite at a position perpendicular to the plane in which the satellite is orbiting the earth. The second embodiment includes a step of orienting the spin axis of the satellite in a position of orbit-normal plus an adjustment or correction angle. In this way,

the central axis of a beam forming antennae mounted on the satellite can be kept pointed at a desired bore sight target despite elimination of north/south stationkeeping. Thus, *Westerlund* teaches reorienting a satellite in order to maintain coverage over a specific geographical area. *Westerlund* does not teach, disclose nor suggest tilting satellites or orienting satellites to cover a second geographical area to maximize coverage during a given 24 hour period that provides maximum coverage to a particular area – let alone during predetermined peak times.

Similarly, the *Dulck* reference teaches a method for tilting the orbital plane of a satellite without consuming propellants. The satellite includes an antennae which is oriented towards a central station throughout the period when the satellite moves above the covering zone. The method of tilting the orbital plane is through the use of gravitational assistance in order to reduce the use of propellant consumption. Once the satellite achieves its desired orbit, its coverage is not changed to provide coverage for a second coverage area.

The Examiner states that *Uphoff* discloses the various tiltings of the satellite trajectory to accomplish certain missions are well known in the art. *Uphoff* does not teach, suggest nor disclose Applicants' claimed invention as *Uphoff* relates to cislunar travel and more particularly, to orbital systems useful for earth-to-moon and moon-to-earth travel which utilize the moon's gravitational field to achieve orbital transfers and can be sustained with relatively low propellant requirements. *Uphoff* does not teach nor suggest tilting the orbital plane of a satellite in order to provide a second coverage area in accordance with Applicants' claimed invention.

Accordingly, it is respectively submitted that none of the references of record teach nor suggest determining a second coverage for a satellite at a predetermined local time for a set of predetermined geographical locations – let alone for a predetermined local peak times – in accordance with claims 1 and 10 of Applicants' claimed invention. Furthermore, claims 2-9 and 11-19 which depend from claims 1 and 10, respectively, are deemed to be allowable over the art for the same reasons set forth above in connection with claims 1 and 10.

This amendment after final action is being submitted to place the application in better condition for allowance or appeal. Therefore, the Examiner is respectfully requested to enter and consider it.

Accordingly, it is respectfully submitted that all objections and rejections of record have been overcome and that all pending claims are in a condition for allowance. A Notice of Allowance is therefore earnestly solicited.

Should the Examiner have any questions, he is urged to contact the undersigned at the below-listed phone number.

Respectfully submitted,

*Vijayalakshmi D. Duraiswamy*  
Vijayalakshmi D. Duraiswamy  
Reg. No. 31,505  
Pursuant to 37 CFR 1.34(a)

Date: January 12, 2001

HUGHES ELECTRONICS CORPORATION  
ES/001/M.S. A109  
P. O. Box 956  
El Segundo, CA 90245-0956  
Telephone: (310) 662-9919

**Certificate of Mailing**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to the Commissioner for Patents, Washington, DC 20231 on January 12, 2001.

*Vijayalakshmi D. Duraiswamy* 1/12/2001  
Vijayalakshmi D. Duraiswamy, Registration No. 31,505